2261

STOPPING WATER POLLUTION AT ITS SOURCE

MISA

Municipal/Industrial Strategy for Abatement

DRAFT EFFLUENT LIMITS REGULATION

FOR THE

PULP AND PAPER SECTOR

Ontario

Environment
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news release

Ministry
of the
Environment

February 2, 1993

COMPREHENSIVE CLEAN WATER REGULATION FOR ONTARIO'S PULP AND PAPER INDUSTRY

Environment Minister Ruth Grier today released a comprehensive clean water regulation targeting a wide range of substances from Ontario's 26 pulp and paper mills, including organochlorines. New stringent limits will greatly reduce those chemicals that pose a threat to human health and the environment. Ontario's goal is for a zero discharge of organochlorines by 2002.

"We must safeguard health. More than 30 million people, 6 million in Ontario, depend on the Great Lakes for their drinking water. The Great Lakes can no longer sustain this kind of toxic overload," Mrs. Grier said.

Pulp and paper mills are responsible for more than 90 per cent of the organochlorines -- a family of chlorine-based chemicals that includes known cancer-causing agents -- discharged into the Great Lakes and Ontario's waterways.

"To protect the Great Lakes' ecosystem, our economic and community well-being, we must act now. This pulp and paper regulation is both progressive and practical. By eliminating organochlorines in stages, we have addressed industry's requests for practical timeframes and long-term certainty so it can plan for its future investments," Mrs. Grier said.

In its 1992 report on the Great Lakes, the International Joint Commission stated that organochlorines are "dangerous to the environment, deleterious to the human condition, and can no longer be tolerated in the ecosystem, whether or not unassailable scientific proof of acute or chronic damage is universally accepted."

"Pollution prevention is the foundation for this new clean water regulation," added Mrs. Grier. "It furthers the Ontario government's commitment to the Great Lakes Water Quality Agreement's principle of zero discharge of persistent toxic substances. This includes the binational Lake Superior program which is designed to protect the integrity of our largest great lake. The clean water regulation will help meet the goal of the Remedial Action Plans in the eight toxic hot spots around the lakes affected by pulp and paper mill pollution."

"In addition to significant reductions, the pulp and paper industry is required to plan for the elimination of chlorine. It will lead Ontario into the 21st century with cleaner water by eliminating some toxic substances and reducing others by close to 100 per cent within three years," Mrs. Grier added.

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Natural Resources Minister Bud Wildman said, "We recognize the challenge this new regulation poses for our forest industry. We will be discussing with them how to develop new technologies to meet those challenges. We must work together to ensure the environmental and economic sustainability of our industry, our resources and our communities."

All four categories of pulp and paper mills (kraft, sulphite/mechanical, corrugating, de-inking/board/fine papers/tissue) must meet the limits proposed in the regulation for all substances. Compared to 1990, a number of substances will be reduced dramatically by 1995, including:

. chloroform, 96 per cent reduction
. phenol, 88 per cent reduction
. Biochemical Oxygen Demand (BOD), 84 per cent reduction
. toluene, 83 per cent reduction

"The government understands that this is a period of transition for the industry as it restructures for sustainability and moves towards a greener future. We will continue to work with companies. Indeed, we will enhance our support as they research new technologies and new processes," Mrs. Grier said.

The regulation includes limits that must be met by 1995 for the following substances: Biochemical Oxygen Demand (BOD), total suspended solids, total phosphorus, chloroform, toluene, phenol, 2,3,7,8-TCDD (dioxins) and 2,3,7,8-TCDF (furans). Discharges from pulp and paper mills will also have to meet a stringent toxicity test: the wastewaters must be safe enough for fish to survive.

In addition, the limit of organochlorine discharge for the eight kraft mills, measured by AOX *, is set at 1.5 kilograms/tonne of pulp by Dec. 31, 1995 and at 0.8 kilogram/tonne of pulp by Dec. 31, 1999. In order to achieve the goal of zero discharge of AOX by 2002, the kraft mills must also submit AOX Elimination Plans to the government under the following schedule:

- initial AOX Elimination Plans to be produced 6 months after regulation is passed
- interim plans by Dec. 31, 1995 and
- final AOX Elimination Plans by Dec. 31, 1998.

All kraft mills in Ontario are currently operating at levels below the 2.5 kilograms/tonne limit of AOX as required by existing control orders.

The draft limit regulations, which were developed through a consultative process that began in 1986 under the MISA program (Municipal/Industrial Strategy for Abatement), are available for a 60-day public comment and review period.

Copies of the Draft Effluent Limits Regulations for the Pulp and Paper Sector (PIBS #2100) and supporting technical materials including backgrounders and reports (see attached list) can be obtained by calling the Ministry of the Environment's Public Information Centre at (416) 323-4321.

* AOX : Adsorbable Organic Halides, an analytical method for measuring all organochlorines collectively rather than individually. Organochlorines are a family of carbon-based compounds bound by chlorine atoms.

FOR MORE INFORMATION:

Madeleine McLaughlin (416) 323-4443; Communications Adviser to the Minister

Joyce McLean (416) 323-4364; Minister's Office

Gerry Merchant (416) 323-4333; Public Affairs and Communications Services Branch

** version française disponible

SUPPORTING DOCUMENTS:

- Draft Development Document For the Pulp and Paper Sector Effluent Limit Regulation, 250 pages.

  Report describes the steps involved in the development of limits for the Pulp and Paper Sector and contains the draft regulation and the background technical information used to develop the draft regulation

- Protocol for Conducting A Storm Water Control Study, 10 pages.

  The protocol describes the role and responsibilities of the discharger in preventing contaminants from escaping through stormwater runoff and the requirements that must be followed in conducting a stormwater control study

- Protocol for Sampling and Analysis of Industrial/Municipal Wastewater, 150 pages.

  Outlines procedures to be followed by industry when sampling and analyzing effluent under MISA regulations.

BACKGROUND MATERIAL:

- Clean Waters for Ontario: Municipal/Industrial Strategy for Abatement Overview, (PIBS #2100), 4 pages.

- Clean Water Regulation: Pulp and Paper Sector, 8 pages.

POUR UNE MEILLEURE QUALITÉ DE L'EAU

Réglementation des effluents des usines de pâtes et papiers

Le ministère de l'Environnement vient de rendre public un projet de règlement visant à restreindre la quantité de substances polluantes que rejettent les usines de pâtes et papiers dans les lacs et les rivières de l'Ontario.

Le secteur des pâtes et papiers est le deuxième secteur d'activité à être réglementé dans le cadre de la Stratégie municipale et industrielle de dépollution (SMID).

La ministre de l'Environnement invite le public à étudier le projet de règlement et à lui faire parvenir ses observations, par écrit, avant le 2 avril 1993, à l'adresse suivante :

Ruth Grier, ministre de l'Environnement
135, avenue St. Clair ouest, Toronto (Ontario) M4V 1P5

Pour plus de précisions, ou pour obtenir un exemplaire du projet de règlement, prière de composer un des numéros suivants :

1-800-565-4923
1-807-475-1205 (Bureau régional de Thunder Bay)
1-705-675-4501 (Bureau régional de Sudbury)
1-613-549-4000 (Bureau régional de Kingston)
1-416-521-7640 (Bureau régional de Hamilton)

Ontario

IMPROVING ONTARIO'S WATER QUALITY

Clean Water Regulation for Ontario's Pulp and Paper Industry

The Ministry of the Environment has developed draft Clean Water Regulations limiting what pulp and paper mills can discharge into Ontario's waterways.

This is the second of a series of regulations being developed for major industrial sectors under the Municipal/Industrial Strategy for Abatement (MISA).

The Minister of the Environment would like to know what you think about the draft regulation for pulp and paper mills. Comments can be submitted until April 2, 1993 by writing to:

Ruth Grier, Minister of the Environment,
135 St.Clair Ave. W., Toronto, Ontario M4V 1P5

For more information, or to get a copy of the draft regulation please call any of the numbers listed below:

1-800-565-4923
1-807-475-1205 (MOE Thunder Bay Regional Office)
1-705-675-4501 (MOE Sudbury Regional Office)
1-613-549-4000 (MOE Kingston Regional Office)
1-416-521-7640 (MOE Hamilton Regional Office)

Ontario

Ontario

Ministry of the Environment
Ministère de l'Environnement

Office of the Minister
Bureau de la ministre

135 St. Clair Avenue West
Suite 100
Toronto, Ontario
M4V 1P5
416/323-4359

135, avenue St. Clair ouest
Bureau 100
Toronto (Ontario)
M4V 1P5
416/323-4359

February 2, 1993

Dear Sir/Madam:

Ontario's waterways are a precious resource, yet for too long we have taken them for granted. The Ministry of the Environment's goal is to protect our lakes and rivers, and prevent further pollution for future generations.

The Ontario government has released a clean water regulation for the pulp and paper industry. I am pleased to provide you with a copy of the draft. This is one of our many initiatives to protect Ontario's lakes and rivers.

This regulation is both progressive and practical. It establishes timetables and shows the Ontario Government's commitment to zero discharge of persistent toxic substances.

I welcome your comments on the enclosed draft regulation. These can be sent to me at the above address, no later than April 2, 1993.

Thank you for your interest in Ontario's clean water programs. I look forward to hearing from you.

Yours sincerely,

Ruth Grier
Minister

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Ministry of the Environment
135 St. Clair Avenue West
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Dear Friend:

Thank you for your postcard to Premier Rae about Ontario's pulp and paper mill pollution.
We have listened to your concerns.
The new clean water regulation for the pulp and paper sector is stringent and comprehensive. It sets limits to be met by 1995 for nine substances including organochlorines (AOX). In addition, waste water must not kill fish.
We are requiring pulp mills to plan for the elimination of chlorine. Our goal is the elimination of organochlorines by the year 2002. Each pulp mill using chlorine is required to file a series of AOX Elimination Plans, with the final plan due in 1998. As well, mills must reduce their organochlorine emissions to 1.5 kg AOX per tonne by 1995, and to 0.8 kg AOX by 1999.
This regulation is both progressive and practical. It establishes timetables to force industry to prepare for the future. It also shows the Ontario government's commitment to zero discharge of persistent toxic chemicals. Pollution prevention regulations such as this open the door to the growth of Ontario-based technologies that will encourage the production of chlorine-free products.
This regulation is one of our many initiatives to protect Ontario's water.
Ontarians like you have consistently called for action to protect our lakes and rivers. We have listened and we are acting.

Sincerely,

Ruth Grier
Ontario Minister of the Environment

Clean Water Regulations -
Pulp and Paper

For more information please write to:
Environment Ontario
Public Information Centre
135 St. Clair Avenue West
Toronto, Ontario
M4V 1P5

or call: (416) 323-4321 in Toronto,
1 (800) 565-4923 (rest of Ontario)

DRAFT EFFLUENT LIMITS REGULATION FOR THE PULP AND PAPER SECTOR

Report Prepared By:

Water Resources Branch
Ontario Ministry of the Environment

This Draft Regulation has not been finally reviewed by the Registrar of Regulations or by counsel of the Registrar of Regulations, and may be subject to wording changes.

FEBRUARY 1993

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PIBS 2261

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Definitions

1.-(1) In this Regulation,

"combined effluent means effluent that originates from or comes into contact by design with any industrial process or process materials and that is mixed with cooling water effluent or stormwater effluent prior to discharge to a surface water;

"cooling water effluent" means water and associated material that is used in an industrial process for the purpose of removing heat and, by design, does not come into contact with process materials, but does not include blowdown from recirculating cooling water systems;

"cooling water effluent monitoring stream" means a cooling water effluent stream on which a sampling point is required to be established under section 6;

"cooling water effluent sampling point" means a sampling point designated under section 6;

"direct discharger" means an owner or person in occupation or having the charge, management or control of a plant that discharges effluent to a surface water;

"Director", in respect of obligations on a direct discharger, means a director appointed under section 5 of the Environmental Protection Act and responsible for the region in which the direct discharger's plant is located and includes an alternate named by the Director;

"final treatment process" means the last treatment process through which an effluent passes before the effluent is discharged to surface water;

"limited parameter", in relation to a direct discharger's plant, means a parameter for which a limit is specified in columns 3 of schedule 2 for the plant;

"month" means a calendar month;

"operating day" means all or part of 24 consecutive hours during which process effluent is being discharged from a direct discharger's plant;

"plant" means an industrial facility and the developed property and waste disposal sites associated with it;

"process change" means a change in equipment, production process, process materials or treatment process;

"process effluent" means effluent that originates from or comes into contact by design with any industrial process or process materials, and includes continuous and intermittent discharges, combined effluent, blowdown from recirculating cooling water systems, waste disposal site effluent and waste waters discharged during a maintenance shut-down period for all or part of the plant;

"process effluent monitoring stream" means a process effluent stream on which a sampling point is required to be established under section 6.

"process effluent sampling point" means a sampling point designated under section 6 of this Regulation.

"process materials", in relation to a direct discharger's plant, means raw materials for use in an industrial process at the plant, manufacturing intermediates produced at the plant, or products or by-products of an industrial process at the plant, but does not include chemicals added to once-through cooling water for the purpose of controlling organisms, fouling and corrosion;

"reference production rate", means the production rate for a direct discharger's plant as set out in schedule 4.

"quarter" means all or part of a period of three consecutive months beginning on the first day of January, April, July and October;

"schedule 3 parameter", in relation to a direct discharger's plant, means a parameter listed in Schedule # for monitoring at the plant;

"semi-annual period" means all or part of a period of six months beginning on the first day of January and July;

"set of samples" means all of the samples that must be collected on a given operating day from all of the sampling points established under section 6 at a discharger's plant, for the purposes of analysing for the parameters listed in schedules 2 and 3 for that discharger's plant;

"storm water effluent" means run-off from a storm event or thaw that is discharged from a discharger's plant either directly or indirectly to a surface water;

"surface water" means a lake, river, pond, stream, reservoir, swamp, marsh or surface drainage works;

"Waste disposal site effluent" means effluent discharged from any waste disposal site other than a waste disposal site used solely for the storage, for use as fuel, of wood wastes, bark or both;

"week" means a period of seven days commencing at midnight on Saturday and ending at midnight on the following Saturday;

The purpose of this Regulation is, through the application of monitoring and limits, to control the discharge to surface waters of substances listed in schedule 2, to assess the discharge to surface waters of substances listed in schedule 3, and to require mills to prepare plans for the elimination of AOX.

Application

2. This Regulation applies only with respect to the plants listed in schedule 1.

Parameter Limits

3.-(1) The daily plant loading limits for process effluents, listed in column 3 of schedule 2 for a discharger's plant, shall not be exceeded for any operating day.

(2) The monthly average plant loading limits for process effluents, listed in column 4 of schedule 2 for a discharger's plant, shall not be exceeded for any month.

(3) The concentration of hydrogen ion in each process effluent monitoring stream at a discharger's plant at the point of discharge of that effluent to a surface water, shall be controlled so that the Ph value (analytical test group 3) of each stream is not outside the range of 6.0 to 9.5.

(4) A direct discharger shall not discharge a process effluent from the discharger's plant except through a process effluent monitoring stream.

Adsorbable Organic Halide (AOX) Limits

(5) Each direct discharger for which a limit for AOX is listed in columns 3 and 4 of schedule 2 for that discharger's plant, shall ensure that on the day after this regulation is filed, the daily plant loading and the monthly average loading for the parameter AOX at that discharger's plant, calculated in accordance with section 8, does not exceed the "day one" limit for AOX listed in columns 3 and 4 , respectively, of schedule 2 for that discharger's plant.

(6) Each direct discharger for which a limit for AOX is listed in columns 3 and 4 of schedule 2 for that discharger's plant, shall ensure that by the thirty-first day of December, 1995, the daily plant loading and the monthly average loading for the parameter AOX at that discharger's plant, calculated in accordance with section 8, does not exceed the "December 31, 1995" limit for AOX listed in columns 3 and 4 , respectively, of schedule 2 for that discharger's plant.

(7) Each direct discharger for which a limit for AOX is listed in columns 3 and 4 of schedule 2 for that discharger's plant, shall ensure that by the thirty-first day of December, 1999, the daily plant loading and the monthly average loading for the parameter AOX at that

discharger's plant, calculated in accordance with section 8, does not exceed the "December 31, 1999" limit for AOX listed in columns 3 and 4, respectively, of schedule 2 for that discharger's plant.

(8) Each direct discharger shall from time to time as requested by the director, provide the Director with plans, schedules and progress reports for achieving the requirements of subsections (6) and (7).

Lethality Limits

4. Each direct discharger shall control the quality of each process effluent monitoring stream and each cooling water effluent monitoring stream at the discharger's plant to ensure that any rainbow trout acute lethality test or any Daphnia magna acute lethality test performed on any grab sample under section 9 results in mortality for no more than fifty percent of the test organisms in one-hundred percent effluent.

Sampling and Analytical Procedures

5.-(1) For the purposes of this Regulation, the location of sampling points and sampling and analysis including quality control sampling and analysis, shall be performed in accordance with the procedures described in the Ministry publication entitled "Protocol for the Sampling and Analysis of Industrial/ Municipal Wastewater" dated October, 1991.

(2) Each direct discharger shall maintain the sampling equipment used at designated sampling points at a direct discharger's plant in a way that ensures the collection of samples that are characteristic of the effluent.

Sampling Points

6.-(1) Each direct discharger shall, within ninety days of this Regulation coming into force or within thirty days of the stream coming into existence, whichever is later, ensure that a sampling point is established on each process effluent stream at the discharger's plant in accordance with the sampling point location requirements of subsection (5).

(2) A direct discharger need not establish a sampling point on a process effluent stream that flows into another process effluent stream if the samples collected at the sampling point on the merged stream are characteristic of the effluent in the contributing stream.

(3) If the samples collected at a sampling point on the merged stream cease to be characteristic of the effluent in the contributing stream, the direct discharger shall, within thirty days of the change, ensure that a sampling point is established on the contributing stream.

(4) For the purposes of subsections (2) and (3), a sample collected at a sampling point on a merged stream is characteristic of the effluent in a contributing stream if analysis of the sample from the merged stream would consistently yield a positive analytical result for every limited parameter for which a sample from the contributing stream taken in the same way at the same time would yield a positive analytical result.

(5) A sampling point on a process effluent stream shall be established at a location on the stream that,

(a) allows the collection of samples representative of the effluent in the stream;

(b) is downstream of final treatment on the stream, if any;

(c) in the case of a stream that goes through treatment, is upstream of any mixing with cooling water effluent or stormwater effluent occurring after final treatment on the stream; and

(d) in the case of a stream that does not go through any treatment, is upstream of any mixing with once-through cooling water effluent or stormwater effluent.

(6) Each direct discharger shall, within ninety days of this Regulation coming into force or within thirty days of the stream coming into existence, ensure that a sampling point is established on each cooling water effluent stream at the discharger's plant in accordance with the sampling point location requirements of subsection (8).

(7) Subsections (2) to (4) apply with necessary modifications to cooling water effluent streams and, for the purpose, a reference in subsections (2) to (4) to a process effluent stream shall be deemed to be a reference to a cooling water effluent stream.

(8) A sampling point on a cooling water effluent stream shall be established at a location on the stream that,

(a) allows the collection of samples representative of the effluent in the stream; and

(b) is upstream of any mixing with process effluent or stormwater effluent.

(9) Within ninety days after this Regulation comes into force, each direct discharger shall submit to the Director a list and plot plan showing the sampling points required to be established within that ninety day period under subsections (1) and (6).

(10) If a sampling point established on a direct discharger's stream no longer meets the sampling point location requirements of this section or no longer permits the collection of samples from the stream as required by this Regulation, whether because of a process change, an installation of a waste treatment works, an alteration of a waste treatment works, a redirection of an effluent stream or any other change, the direct discharger shall, as soon as is reasonably possible, establish an alternate sampling point on the stream in accordance with the sampling point location requirements of this section.

(11) A direct discharger may replace a sampling point established on a stream under this section with an alternate sampling point at a new location on the stream, so long as the alternate sampling point accords with the sampling point location requirements of this section.

(12) As soon as is reasonably possible but in any case within thirty days after establishing a new sampling point under subsection (1), (3), (6), (7), (10) or (11), the direct discharger shall give the Director a written notice describing the location of the new sampling point, together with a revised version of the list and plot plan submitted under subsection (9) showing the new sampling point.

(13) Subject to subsection 16.-(2), each direct discharger shall use the sampling points established under this section for all sampling required by this Regulation.

Calculations - Loadings

7.-(1) For the purposes of performing a calculation under sections 8 and 9, a direct discharger shall use the actual analytical result obtained by the laboratory.

(2) Despite subsection (1), where the actual analytical result is less than one-tenth of the analytical method detection limit set out in the Ministry publication entitled "Protocol for the Sampling and Analysis of Industrial/Municipal Wastewater" dated October, 1991, the direct discharger shall use the value zero for the purpose of performing a calculation under this section.

(3) Each direct discharger shall ensure that each calculation required by this section is performed as soon as possible after the analytical result on which the calculation is based becomes available to the discharger.

Calculations - Reference Production Rates

7a.-(1) Commencing in 1996 and thereafter each year, each direct discharger may calculate a revised reference production rate for bleached pulp, and finished product for that discharger's plant.

(2) For the purposes of subsection (1), the reference production rate for any year for bleached pulp is equal to the highest value of the 90th percentile of the daily production of bleached pulp at the discharger's plant for any of the previous three years.

(3) For the purposes of subsection (1), the reference production rate for any year for finished product is equal to the highest value of the 90th percentile of the daily production of finished product at the discharger's plant for any of the previous three years.

(4) The 90th percentile of the daily production of finished product at a plant for a year is the statistically derived value that is equal to the quantity of finished product, produced daily by the plant, that was exceeded on 10 percent of the days that the plant operated in the year.

(5) For the purposes of subsections (2) and (3), the finished product is the tonnes of pulp or paper product that has completed the production process at a plant and is calculated on an air-dry basis.

(6) Each direct discharger that calculates a revised reference production rate under subsection (1), shall notify the Director, in writing, no later than the thirty-first day of January of each year, of the value of the revised reference production rate.

Calculations - Revised Parameter Limits

7b.-(1) Commencing in 1996 and thereafter each year, each direct discharger may calculate revised parameter limits for that discharger's plant.

(2) For the purposes of subsection (1), a revised daily loading limit and a revised monthly average loading limit for each parameter shall be calculated by multiplying the revised reference production rate as calculated under section 7a., by the respective daily and monthly unit of production loading limits for each parameter as set out in schedule 2A for the respective category for the discharger's plant.

(3) Each direct discharger that calculates revised parameter limits under subsection (1) shall notify the Director, in writing, no later than the thirty-first day of January of each year, of the value of the revised parameter limits.

(4) For the purposes of section 3(1), the revised daily loading limits calculated under subsection (1) shall replace the respective

daily loading limits listed in column 3 of Schedule 2.

(5) For the purposes of section 3(2), the revised monthly average loading limits calculated under subsection (1) shall replace the respective monthly average loading limits listed in column 4 of Schedule 2.

Calculation of Process Effluent Loadings

8.-(1) Each direct discharger shall calculate, in kilograms, a daily process effluent stream loading for each limited parameter in each process effluent stream of the discharger for each day on which a sample is collected under this Regulation from the stream for analysis for the parameter.

(2) When calculating a daily stream loading under subsection (1), the direct discharger shall multiply, with suitable adjustment of units to yield a result in kilograms, the analytical result obtained from the sample for the parameter by the total volume of effluent discharged on the day from the stream.

(3) For the purposes of subsection (2), the total volume of effluent discharged on an operating day from an effluent stream is the volume as calculated under section 23.

(4) Each direct discharger shall calculate a daily process effluent plant loading for each limited parameter for each day in respect of which the discharger is required to calculate a daily process effluent stream loading under subsection (1).

(5) For the purposes of subsection (4), a daily process effluent plant loading for a parameter for a day is the sum, in kilograms, of the daily stream loadings for the parameter calculated under subsection (1) for the day.

(6) Where a direct discharger calculates only one daily process effluent stream loading under subsection (1), the daily process effluent plant loading for the purposes of subsection (4) is the single daily process effluent stream loading.

(7) Each direct discharger shall calculate, in kilograms, a monthly average process effluent plant loading for each limited parameter for each month in which a sample is collected under this Regulation more than once from a process effluent stream at the discharger's plant for analysis for the parameter.

(8) For the purposes of subsection (7), a monthly average process effluent plant loading for a parameter for a month is the arithmetic mean of the daily process effluent plant loadings for the parameter calculated under subsection (4) for the month.

Calculation of Cooling Water Effluent Loadings

9.-(1) Each direct discharger shall calculate, in kilograms, a daily cooling water effluent stream loading for each Schedule 3 parameter in each cooling water effluent stream of the discharger for each day on which a sample is collected under this Regulation from the stream for analysis for the parameter.

(2) When calculating a daily stream loading under subsection (1), the direct discharger shall multiply, with suitable adjustment of units to yield a result in kilograms, the analytical result obtained from the sample for the parameter by the total volume of effluent discharged on the day from the stream.

(3) For the purposes of subsection (2), the total volume of effluent discharged on an operating day from an effluent stream is the volume as calculated under section 23.

(4) Each direct discharger shall calculate a daily cooling water effluent plant loading for each Schedule 3 parameter for each day in respect of which the discharger is required to calculate a daily cooling water effluent stream loading under subsection (1).

(5) For the purposes of subsection (4), a daily cooling water effluent plant loading for a parameter for a day is the sum, in kilograms, of the daily stream loadings for the parameter calculated under subsection (1) for the day.

(6) Where a direct discharger calculates only one daily cooling water effluent stream loading under subsection (1), the daily cooling water effluent plant loading for the purposes of subsection (4) is the single daily cooling water effluent stream loading.

(7) Each direct discharger shall calculate, in kilograms, a monthly average cooling water effluent plant loading for each Schedule 3 parameter for each month.

(8) For the purposes of subsection (7), a monthly average cooling water effluent plant loading for a parameter for a month is the arithmetic mean of the daily cooling water effluent plant loadings for the parameter calculated under subsection (4) for the month.

Monitoring

10.-(1) For the purposes of this Regulation, composite samples of process effluent and cooling water effluent shall be collected and analyzed in accordance with the procedures described in the Ministry publication entitled "Protocol for the Sampling and Analysis of Industrial/Municipal Wastewater" dated October, 1991.

(2) Where a direct discharger is required under this Regulation to collect composite samples, those samples shall be collected over an operating day.

(3) Despite subsection (2), where a direct discharger has more than one process effluent monitoring stream and is required on an operating day to collect a composite sample from each stream at the discharger's plant, the discharger may designate any period of twenty-four consecutive hours for each stream provided that the discharger;

i. specifies to the Director in writing no later than thirty days after this Regulation comes into force, the sampling commencement time for each stream and maintains those times from day to day, and

ii. commences the sampling of all streams on the same calendar day.

(4) Where a direct discharger has more than one process effluent monitoring stream and is required on an operating day to collect a set of samples from each stream at the discharger's plant, the discharger shall collect all samples in the set from each stream on the same operating day.

(5) Despite subsection (2), where a direct discharger has more than one cooling water effluent monitoring stream and is required on an operating day to collect a composite sample from each stream at the discharger's plant, the discharger may designate any period of twenty-four consecutive hours for each stream provided that the discharger,

i. specifies to the Director in writing no later than thirty days after this Regulation comes into force, the sampling commencement time for each stream and maintains those times from day to day, and

ii. commences the sampling of all streams on the same calendar day.

(6) Where a direct discharger has more than one cooling water effluent monitoring stream and is required on an operating day to collect a set of samples from each stream at the discharger's plant, the discharger shall collect all samples in the set from each stream on the same operating day.

(7) A direct discharger shall use all reasonable efforts to ensure that all analyses required by this Regulation are completed as soon as possible and that the results of those analyses are made available to the discharger as soon as possible.

Monitoring - Process Effluent - Daily Limits

11.-(1) Each direct discharger shall collect a set of samples from each process effluent sampling point during each operating day, and shall analyze each set of samples for the parameters for which the frequency of monitoring, set out in column 2 of schedule 2 for the discharger's plant, is daily.

(2) A direct discharger need not meet the requirements of subsection (1) where it is impossible to do so because of sampling by a provincial officer.

Monitoring - Process Effluent - Weekly Limits

12.-(1) Each direct discharger shall collect a set of samples from each process effluent sampling point on one operating day during each week, and shall analyze each set of samples for the parameters for which the frequency of monitoring, set out in column 2 of schedule 2 for the discharger's plant, is weekly.

(2) For the purposes of subsection (1), a set of samples collected from a process effluent sampling point after the first set of samples is collected from that point shall be collected no sooner than three days after the previous sampling from that sampling point.

Monitoring - Process Effluent - Quarterly Limits

13.-(1) Each direct discharger shall collect a set of samples from each process effluent sampling point on one operating day during each quarter, and shall analyze each set of samples for the parameters for which the frequency of monitoring, set out in column 2 of schedule 2 for the discharger's plant, is quarterly.

(2) For the purposes of subsection (1), a set of samples collected from a process effluent sampling point after the first set of samples is collected from that point shall be collected no sooner than forty-five days after the previous sampling from that sampling point.

Monitoring - Process Effluent - Reduced Frequency

14.-(1) Where, for twelve consecutive months of monitoring under subsection 11(1), the monthly average plant loading of a daily parameter is equal to or less than fifty percent of the limit for the parameter as set out in column 4 of schedule 2 for a direct discharger's plant, the frequency of monitoring for the parameter may be reduced to three times per week.

(2) Subsection 1 ceases to apply if the monthly average plant loading of a parameter is greater than fifty percent of the limit for the parameter as set out in column 4 of schedule 2 for the discharger's plant, for two consecutive months and the discharger shall instead sample in accordance with the requirements of subsection 11(1).

(3) Where, for twelve consecutive months of monitoring under subsection 12(1), the monthly average plant loading of a weekly parameter is equal to or less than fifty percent of the limit for the parameter as set out in column 4 of schedule 2 for a direct discharger's plant, the frequency of monitoring for the parameter may be reduced to bi-weekly.

(4) Subsection (3) ceases to apply if the monthly average plant loading of a parameter is greater than fifty percent of the limit for the parameter as set out in column 4 of schedule 2 for the discharger's plant, for two consecutive months and the discharger shall instead sample in accordance with the requirements of subsection 12(1).

(5) A direct discharger shall notify the Director in writing of any changes in the frequency of monitoring at the discharger's plant made under subsections (1) through (4), within thirty days after the day on which a change occurs.

Monitoring - Process Effluent - Quality Control

15.-(1) Each direct discharger shall collect or prepare the quality control samples required by subsections (2) and (3) in accordance with the procedures described in the Ministry publication entitled "Protocol for the Sampling and Analysis of Industrial/Municipal Wastewater" dated October, 1991.

(2) Once per year, each direct discharger shall collect from one process effluent sampling point at the discharger's plant, a duplicate or replicate sample for each sample collected on that day from that sampling point under subsection 12(1), and shall analyze each duplicate or replicate sample for the parameters for which the frequency of monitoring set out in column 2 of schedule 2 for the discharger's plant is weekly.

(3) Once per year, on the day on which duplicate or replicate samples are collected under subsection (2), each direct discharger shall prepare a travelling blank and travelling spiked blank sample for each sample collected on that day from one process effluent sampling point under subsection 12(1), and shall analyze the travelling blank and travelling spiked blank sample for the parameters for which the frequency of monitoring set out in column 2 of schedule 2 for the discharger's plant is weekly.

(4) A direct discharger need not analyze a travelling blank sample collected under subsection (3) for parameters in analytical test groups (ATGs) 3 and 8 listed in schedule 1 of the Ministry publication entitled "Protocol for the Sampling and Analysis of Industrial/Municipal Wastewater", October, 1991.

(5) A direct discharger shall only analyze a travelling spiked blank sample collected under subsection (3) for parameters in analytical test groups (ATGs) 16 to 20, 23 and 26 listed in schedule 1 of the Ministry publication entitled "Protocol for the Sampling and Analysis of Industrial/Municipal Wastewater", October, 1991.

Monitoring - Process Effluent - pH Measurement

16.-(1) Each direct discharger shall ensure that the pH of each process effluent monitoring stream at the discharger's plant is measured during each operating day, using an on-line analyzer.

(2) For the purposes of this section, a direct discharger shall use either the sampling point established under section 6 on the stream or an alternate sampling point located downstream of the sampling point but before the point of discharge of the stream to surface water.

(3) Before using an alternate sampling point under subsection (2), a direct discharger shall give the Director a written notice describing the location of the alternate sampling point, together with a revised version of the list and plot plan submitted under subsection 6(9) showing the alternate sampling point.

(4) If an on-line analyzer used by a direct discharger for the purpose of measuring pH under this section is not operational due to a problem of malfunction, maintenance or calibration for a period of more than twenty-four consecutive hours, for every subsequent operating day that the on-line analyzer is not operational, that discharger shall instead collect eight grab samples throughout each operating day, at approximately three-hour intervals, from the sampling point on which the analyzer is located, and shall analyze each sample for the parameter pH.

Monitoring - Acute Lethality Testing - Rainbow Trout

17.-(1) Where a direct discharger is required to perform a rainbow trout acute lethality test, the discharger shall perform the test according to the procedures described in the Environment Canada publication entitled "Reference Method for Determining Acute Lethality of Effluents to Rainbow Trout" dated July, 1990.

(2) Once in each month and on the same operating day, each direct discharger shall collect a grab sample from each process effluent

sampling point and each cooling water effluent sampling point at the discharger's plant, and shall perform a rainbow trout acute lethality test on each sample.

(3) Each direct discharger shall carry out each rainbow trout acute lethality test as a single concentration test using one hundred percent effluent and shall record the result.

(4) For the purposes of subsection (2), a sample collected from a sampling point after the first sample is collected from that point shall be collected no sooner than fifteen days after the previous sampling from that sampling point.

(5) Where a direct discharger has performed twelve consecutive tests under subsection (2) on a sample collected from the same sampling point and the mortality of the rainbow trout in each test has not exceeded fifty percent, the discharger is relieved of the obligations under subsection (2) and may instead collect a grab sample once per quarter from that sampling point and perform a rainbow trout acute lethality test on that sample.

(6) For the purposes of subsection (5), a sample collected from a sampling point after the first sample is collected from that point shall be collected no sooner than forty-five days after the previous sampling from that sampling point.

(7) If a rainbow trout acute lethality test performed under subsection (5) on any sample from a sampling point results in mortality for more than fifty percent of the test fish, subsections (5) and (6) cease to apply in respect to samples from that sampling point, and a direct discharger shall instead test in accordance with the requirements of subsection (2) until the tests performed under subsection (2) on all samples from that sampling point for a further twelve consecutive months result in mortality for no more than fifty per-cent of the fish for each test.

(8) Where a direct discharger reasonably believes that the testing of an effluent stream would result in mortality to more than fifty percent of the test fish, the discharger shall so acknowledge to the Director in writing, and is then relieved of the obligations to perform a rainbow trout acute lethality test under subsection (2) until section 4 of this regulation comes into force.

(9) For the purposes of subsection (2), each direct discharger shall collect each sample from each process effluent sampling point at the discharger's plant on one of the days on which a set of samples is collected at the discharger's plant under subsections 12(1) or 14(3).

(10) For the purposes of subsections (5) and (7), a direct discharger shall notify the Director in writing of any changes in the frequency of acute lethality testing at the discharger's plant, within thirty days after the day on which a change occurs.

Monitoring - Acute Lethality Testing - Daphnia Magna

18.-(1) Where a direct discharger is required by this Regulation to perform a Daphnia magna acute lethality test, the discharger shall perform the test according to the procedures described in the Environment Canada publication entitled "Reference Method for Determining Acute Lethality of Effluents to Daphnia magna" dated July, 1990.

(2) Subsections 17(2) to (10) apply with necessary modifications to Daphnia magna acute lethality tests.

(3) Each direct discharger shall collect all samples required by rainbow trout acute lethality tests and Daphnia magna acute lethality tests on the same day.

Monitoring - Chronic Toxicity Testing - Ceriodaphnia

19.-(1) Where a direct discharger is required to perform a 7-day Ceriodaphnia reproduction inhibition and survivability test, the discharger shall perform the test according to the procedure described in the Environment Canada publication entitled "Test of Reproduction and Survival Using the Cladoceran Ceriodaphnia dubia" dated February, 1992.

(2) Once in each semi-annual period and on the same operating day, each direct discharger shall collect a grab sample from each process effluent sampling point and each cooling water effluent sampling point at the discharger's plant, and shall perform a 7-day Ceriodaphnia reproduction inhibition and survivability test on each sample.

(3) For the purposes of subsection (2), a sample collected from a sampling point after the first sample is collected from that point shall be collected no sooner than ninety days after the previous sampling from that sampling point.

(4) Subsection (2) does not apply until twelve consecutive monthly rainbow trout and Daphnia magna acute lethality tests performed on samples collected from process effluent and once-through cooling water effluent sampling points at a direct discharger's plant result in mortality for no more than fifty percent of the test organisms in one hundred percent effluent.

(5) For the purposes of subsection (2), each direct discharger shall collect each sample from each process effluent sampling point at the discharger's plant on one of the days on which a set of samples is collected at the discharger's plant under subsections 12(1) or 14(3).

Monitoring - Chronic Toxicity Testing - Fathead Minnow

20.-(1) Where a direct discharger is required to perform a 7-day fathead minnow growth inhibition test, the discharger shall perform the test according to the procedure described in the Environment Canada publication entitled "Test of Larval Growth and Survival Using Fathead Minnows" dated February, 1992.

(2) Subsections 19(2) to (5) apply, with necessary modifications, to fathead minnow chronic toxicity tests.

(3) Each direct discharger shall collect all samples required by Ceriodaphnia chronic toxicity tests and fathead minnow chronic toxicity tests on the same day.

Monitoring - Cooling Water - Weekly Assessment

21.-(1) Each direct discharger shall collect a set of samples from each cooling water effluent sampling point at the discharger's plant on one operating day during each week, and shall then analyze each set of samples for the parameters listed in schedule 3 for the discharger's plant.

(2) For the purposes of subsection (1), a set of samples collected from a cooling water effluent sampling point after the first set of samples is collected from that point shall be collected no sooner than three days after the previous sampling from that sampling point.

Flow Measurement

22.-(1) Subject to subsection (2), each direct discharger shall determine in cubic metres the daily volume of effluent in each process effluent monitoring stream at the discharger's plant throughout each operating day, by integration of continuous flowrate measurements.

(2) A direct discharger that has process effluent monitoring streams that discharge on an intermittent basis throughout an operating day at the discharger's plant, shall determine the daily volume of effluent from each of the streams throughout an operating day, either by integration of continuous flowrate measurements or by the summation of individual batch volume measurements.

(3) Each direct discharger shall use flow measurement methods which allow the volume of effluent discharged from each process effluent monitoring stream at the discharger's plant to be determined to an accuracy of within <u>plus or minus fifteen percent</u>.

(4) Each direct discharger shall determine the daily volume in cubic metres of effluent in each cooling water effluent monitoring stream at the discharger's plant, throughout each operating day on which a set of samples is collected for analysis under section 21.

(5) Each direct discharger shall use flow measurement methods which allow the volume of effluent discharged from each cooling water effluent monitoring stream at that discharger's plant, to be determined to an accuracy of within plus or minus twenty percent.

(6) Each direct discharger shall, no later than the day that this section comes into force, determine by calibration methods or confirm by means of a certified report of a registered professional engineer of the Province of Ontario that each flow measurement method or system used under subsections (1) and (2) meets the accuracy requirements of subsection (3) and those used under subsection (4) meet the accuracy requirements of subsection (5).

(7) Where a direct discharger installs a new flow measurement method or system or alters an existing flow measurement method or system, the discharger shall determine by calibration methods or confirm by means of a certified report of a registered professional engineer of the Province of Ontario that each new or altered flow measurement method or system meets the accuracy requirements of either subsections (3) or subsection (5) within two weeks after the day on which the new or altered method or system is used.

(8) Each direct discharger shall develop and implement a maintenance schedule and a calibration schedule for each flow measurement system installed at that discharger's plant and shall maintain each flow measurement system according to good operating practices.

(9) Each direct discharger shall use reasonable efforts to set up flow measurement systems that can be inspected by a provincial officer.

Calculations of Effluent Volumes

23.-(1) Each direct discharger shall calculate, in cubic metres, a daily process effluent plant volume for each day.

(2) For the purposes of subsection (1), a process effluent plant volume for a day is the sum of the daily volumes calculated under section 22 in respect of the day.

(3) Each direct discharger shall calculate, in cubic metres, a monthly average process effluent plant volume for each month, by taking the arithmetic mean of the daily process effluent plant volumes calculated under subsection (1) for the month.

(4) Each direct discharger shall calculate, in cubic metres, a daily cooling water effluent plant volume for each day.

(5) For the purposes of subsection (4), a cooling water effluent plant volume for a day is the sum of the daily volumes calculated under section 22 in respect of the day.

(6) Each direct discharger shall calculate, in cubic metres, a monthly average cooling water effluent plant volume for each month, by taking the arithmetic mean of the daily cooling water effluent plant volumes calculated under subsection (4) for the month.

Storm Water Control Study

24.-(1) Each direct discharger shall complete a storm water control study in accordance with the requirements of the Ministry publication entitled "Storm Water Control Study Protocol", dated August, 1992.

(2) Where a direct discharger meets the exemption criteria set out in the Ministry publication entitled "Storm Water Control Study Protocol," dated August, 1992, the discharger shall so notify the Director in writing, no later than one year after this Regulation comes into force, and is then exempted from the requirement of subsection (1).

(3) A direct discharger shall complete the storm water control study required by subsection (1) no later than two years after this Regulation comes into force.

(4) Where, in order to meet the requirements of section 3 or 4 of this regulation, a direct discharger plans to make process changes, install waste water treatment facilities, implement management practices, or make any other changes at the discharger's plant that will alter the quantity or quality of storm water discharged from the plant, a discharger may delay the completion of the storm water control study as required under subsection (3) and shall notify the Director accordingly, in writing, no later than two years after this Regulation comes into force.

(5) A direct discharger that notifies the Director under subsection (4) shall complete the storm water control study required by subsection (1) no later than one year after sections 3 and 4 of this regulation come into force.

Record Keeping

25.-(1) Each direct discharger shall keep the records required to be kept under subsections (4) to (7) in an electronic format acceptable to the Director, and shall, from time to time, make these records available in an electronic format to the Ministry during normal working hours.

(2) Each direct discharger shall keep records of the locations of all sampling points established in accordance with the requirements of section 6.

(3) Each direct discharger shall keep records of all sampling and analytical procedures used in meeting the requirements of section 5, including, for each sample, the date, the time of collection, the sampling procedures used, and any incidents likely to affect the analytical results.

(4) Each direct discharger shall keep records of all the results of monitoring for limits, quality control, and assessment performed in accordance with the requirements of sections 11 through 15 and 21.

(5) Each direct discharger shall keep records of pH measurements performed in accordance with the requirements of section 16.

(6) Each direct discharger shall keep records of all the results of monitoring for acute lethality and chronic toxicity performed in accordance with the requirements of sections 17 through 20.

(7) Each direct discharger shall keep records of all flow measurements and all maintenance and calibration procedures carried out on each flow measurement system required to be performed under section 22.

(8) Each direct discharger shall keep records of all problems or malfunctions related to sampling, chemical analysis, on-line analyzers for Ph measurement, acute lethality and chronic toxicity testing, or flow measurement systems, or, other problems that interfere with fulfilling the requirements of this Regulation, detailing the date, duration and cause of each malfunction, and including a description of any remedial action taken.

(9) Each direct discharger shall keep records of any discharge of process effluent that is not discharged through a process effluent monitoring stream at the discharger's plant, in contravention of section 3 of this regulation, detailing the date, duration, cause and nature of each discharge.

(10) Each direct discharger shall keep records of all process changes and any redirection of effluent streams that affect the quality of any process effluent monitoring stream or cooling water effluent monitoring stream at the discharger's plant.

(11) Each direct discharger shall keep records of the daily production for the products listed in schedule 4 for the discharger's plant.

(12) Each direct discharger shall keep all records required by this Regulation for a period of three years.

(13) Each direct discharger shall from time to time upon request, make records required to be kept under this section accessible to the Ministry during normal working hours.

Reporting

26.-(1) Each direct discharger shall notify the Director in writing of any change of name or ownership of the discharger's plant occurring after the day this Regulation comes into force, within thirty days after the end of the month in which the change occurs.

(2) Each direct discharger shall, within 30 days, notify the Director in writing of all process changes and any redirection of or change in the character of any effluent stream that permanently affects the quality of any effluent stream at the discharger's plant.

(3) Where an operating day of a direct discharger spans two calendar days, the discharger shall report the date of all sampling and flow measurements done on that operating day as the first of the two calendar days.

(4) On or before the first day of June each year, each direct discharger shall prepare a report including instances of non-compliance and summarizing the results of all testing performed by the discharger during the previous calendar year in accordance with the requirements of monitoring under sections 11 through 21 and measurement of flow under section 22, and shall make this report available at the discharger's plant during reasonable hours for inspection by the public.

(5) A direct discharger shall notify the Director in writing, within thirty days, if the discharger's plant has operated for more than ninety consecutive days, at less than seventy-five percent of the reference production rate specified in Schedule 4 for the discharger's plant.

Reporting - Compliance

(6) A direct discharger shall notify the Director, during normal business hours and as soon as the results are available, if for any parameter, a daily plant loading exceeds the limit specified in column 3 of schedule 2 or, a monthly average plant loading exceeds the limit specified in column 4 of schedule 2.

(7) Where an on-line analyzer is used for the purposes of measuring pH under section 16, a direct discharger shall notify the Director, during normal business hours and as soon as the results are available, if the discharger fails to meet the pH requirements of section 3 for any period of more than fifteen consecutive minutes throughout an operating day, and shall notify the Director of the duration of the failure.

(8) Despite subsection (7), a direct discharger need not notify the Director if the failure to meet the pH requirements of section 3 is the result of a problem or malfunction related to the on-line analyzer or, the maintenance or calibration of the on-line analyzer.

(9) Where an alternate method is used for the purposes of measuring pH under section 16, a direct discharger shall notify the Director, during normal business hours, as soon as the results are available, if the discharger fails to meet the pH requirements of section 3.

(10) A direct discharger shall notify the Director as soon as the results are available, during normal business hours, if the discharger fails to meet the lethality limits of section 4.

Quarterly Reporting

(11) Once in each quarter, each direct discharger shall report to the Director, in a format acceptable to the Director, all information required to be reported under subsections (12) through (19) in an electronic format, and by hard copy generated from that electronic format signed by the direct discharger, no later than forty-five days after the end of the quarter to which the information relates.

Loadings

(12) For process effluent monitoring streams, each direct discharger shall report for each month, the monthly average plant loadings and the maximum and minimum daily plant loadings for each of the parameters for which there is a limit set out in columns 3 of schedule 2 for the discharger's plant,

(13) For process effluent monitoring streams, a direct discharger shall report, for any parameter, any daily plant loading that exceeded the limit specified in column 3 of schedule 2 and any monthly average plant loading that exceeded the limit specified in column 4 of schedule 2, during any month.

(14) For cooling water effluent monitoring streams, each direct discharger shall report for each month, the monthly average plant loadings and the maximum and minimum daily plant loadings for each of the parameters set out in schedule 3 for the discharger's plant.

pH

(15) Each direct discharger shall report an estimation of an average pH range for each process effluent monitoring stream at the discharger's plant, for each month during the quarter.

Flow Measurement

(16) For process effluent monitoring streams, each direct discharger shall report the monthly average plant volume, and the maximum and minimum daily plant volumes for each month.

(17) For cooling water effluent monitoring streams, each direct discharger shall report the monthly average plant volume, and the maximum and minimum daily plant volumes for each month.

(18) Each direct discharger shall report the number of days throughout each month on which effluent was discharged from each process effluent monitoring stream.

(19) Each direct discharger shall report the number of days throughout each month on which effluent was discharged from each cooling water effluent monitoring stream.

Reporting - By-Passes

(20) Each direct discharger shall report to the Director, as soon as is reasonably possible, any process effluent that is discharged other than through a process effluent monitoring stream at the discharger's plant, detailing the time, duration, cause and nature of each discharge.

Reporting - Chronic Toxicity Testing

(21) Each direct discharger shall report to the Director in writing, the results of all chronic toxicity testing performed under sections 19 and 20, together with the date on which each sample was collected, no later than sixty days after the end of each semi-annual period in which the tests were performed.

Reporting - AOX Elimination Plan (AEP)

(22) Each direct discharger for which a limit for AOX is listed in column 3 of schedule 2 for that discharger's plant shall, no later than 6 months after this regulation comes into force, submit to the Director an initial or preliminary plan which contains a preliminary schedule and <u>outlines</u> methods by which AOX generated from the bleaching of wood fibre or recycled fibre at the discharger's plant may be eliminated by the year 2002.

(23) Each direct discharger for which a limit for AOX is listed in column 3 of schedule 2 for that discharger's plant shall, on or before December 31, 1995, submit to the Director an <u>interim</u>, "AOX Elimination Plan," prepared in accordance with the Part 1 requirements of schedule 5 of this regulation, which describes the methods by which AOX generated from the bleaching of wood fibre or recycled fibre at the discharger's plant may be eliminated by the year 2002.

(24) Each direct discharger for which a limit for AOX is listed in column 3 of schedule 2 for that discharger's plant shall, on or before December 31, 1998, submit to the Director a <u>final</u> "AOX Elimination Plan," prepared in accordance with the Part 1 requirements of schedule 5 of this regulation, which describes the methods by which the discharger proposes to eliminate, by the year 2002, AOX generated from the bleaching of wood fibre or recycled fibre at the discharger's plant.

(25) Each direct discharger for which a limit for AOX is listed in column 3 of schedule 2 for that discharger's plant, shall submit to the Director no later than the thirty-first day of December of the year in which it is due, an annual status report and AEP update prepared in accordance with the requirements of part 2 of schedule 5.

Timing

27.-(1) Sections 1, 2, 5, 6, 24 and subsection 3(5) and 26(22) of this Regulation come into force on the day it is filed.

(2) Sections 7 through 23 and 25, and subsections 26(1) through (5) and 26(11) through (22), come into force ninety days after this Regulation is filed.

(3) Subsections 3(1) through (4) and (6), sections 4, 7a, 7b and subsections 26(6) through (10), (23) and (25), come into force on December 31, 1995.

(4) Subsection 26(24) comes into force on December 31, 1998.

(5) Subsection 3(7) comes into force on December 31, 1999.

LIST OF SCHEDULES

Schedule 1	-	List of Regulated Plants in Sector
Schedule 2	-	Process Effluent Limits
Schedule 2A	-	Unit of Production Based Loading Limits
Schedule 3	-	Assessment Monitoring Requirements
Schedule 4	-	Reference Production Rates
Schedule 5	-	Requirements for AEP's

LIST OF PROTOCOLS

"Protocol for the Sampling and Analysis of Industrial/Municipal Wastewater" (1991)
"Storm Water Control Study Protocol" (1992)
"Reference Method for Determining Acute Lethality of Effluents to Rainbow Trout" (1990)
"Reference Method for Determining Acute Lethality of Effluents to Daphnia magna" (1990)
"Test of Reproduction and Survival Using the Cladoceran Ceriodaphnia dubia" (1992)
"Test of Larval Growth and Survival Using Fathead Minnows" (1992)

SCHEDULE 1: LIST OF REGULATED PLANTS

CATEGORY	PLANT NAME	LOCATION	OWNER AS OF JUNE 15, 1989
Sulphate (Kraft)	Boise Cascade	Fort Frances	Boise Cascade Canada Ltd.
	Canadian Pacific Forest Products	Dryden	Canadian Pacific Forest Products Ltd.
	Canadian Pacific Forest Products	Thunder Bay	Canadian Pacific Forest Products Ltd.
	Domtar	Cornwall	Domtar Inc., Fine Papers Division
	Domtar	Red Rock	Domtar Inc., Containerboard Division
	Eddy Forest Products	Espanola	E.B. Eddy Forest Products Ltd.
	James River	Marathon	James River–Marathon Ltd.
	Kimberly–Clark	Terrace Bay	Kimberly Clark of Canada Ltd.
	Malette	Smooth Rock Falls	Malette Inc., Malette Kraft Pulp and Power Division
Sulphite–Mechanical	Abitibi–Price Fort William Mill	Thunder Bay	Abitibi–Price Inc., Fort William Division
	Abitibi–Price Port Arthur Mill	Thunder Bay	Abitibi–Price Inc., Provincial Papers Division
	Abitibi–Price	Iroquois Falls	Abitibi–Price Inc., Iroquois Falls Division
	Boise Cascade	Kenora	Boise Cascade Canada Ltd.
	Quebec & Ontario Paper	Thorold	Q & O Paper Company Ltd.
	St. Marys Paper	Sault Ste. Marie	St. Marys Paper Inc.
	Spruce Falls	Kapuskasing	Spruce Falls Power and Paper Company Ltd.
Corrugating	Domtar	Trenton	Domtar Inc., Containerboard Division
	MacMillan–Bloedel	Sturgeon Falls	MacMillan–Bloedel Ltd.
Deinking/ Board/ Fine Papers/ Tissue	Beaver Wood Fibre	Thorold	Beaver Wood Fibre Company Ltd.
	Domtar Fine Papers	St. Catharines	Domtar Inc., Fine Paper Division
	Eddy Forest Products	Ottawa	E.B. Eddy Forest Products Ltd.
	Fraser	Thorold	Noranda Forest Inc.
	Kimberly–Clark	Huntsville	Kimberly Clark of Canada Ltd.
	Kimberly–Clark	St. Catharines	Kimberly Clark of Canada Ltd.
	Sonoco Limited	Trenton	Paperboard Industries Corporation
	Strathcona	Napanee	Roman Corporation Ltd.

d) Provides detailed descriptions of AEP options that apply to the discharger's plant including, but not necessarily limited to, options which consider:

i) substitution of other chemical agents for the bleaching of wood fibre or recycled fibre;

ii) reformulation of products which will eliminate the need for the use of chlorine or chlorine compounds;

e) Provides an evaluation of the technical feasibility of implementing the AEP options listed in item d);

f) Provides a proposed schedule for implementing the preferred option(s) from those listed in item d).

g) Provides an estimate of the anticipated reductions in AOX that will result from the various stages of a staged AEP.

Part 2

Annual Report and Update of the AEP

In preparing an annual report/update, each direct discharger shall:

a) Include the amount of AOX generated by the discharger's plant (prior to biological treatment) for the year and the method by which the amount of AOX generated was determined.

b) Include any re-evaluations of the technical feasibility of the preferred option(s) submitted in the AEP and evaluations of the technical feasibility and cost of any new options that were considered since the last update of the AEP;

c) Include any changes in the discharger's priorities, resource requirements, monitoring program and schedules associated with the AEP.

The reports must be submitted no later than the thirty-first day of December of the year in which they are due and must provide continuity with previous reports.

SCHEDULE 5

REQUIREMENTS for AOX Elimination Plans

(AEP's)

This schedule applies to all direct dischargers which are required under Section 26 of this regulation to submit an AEP.

Written AEP's which are submitted under this regulation will be evaluated by the Ministry in the context of environmental, technological and economic factors.

Commencing in 1999, each direct discharger shall prepare and submit a status report and AEP update annually.

Part 1

AEP Contents

In order to comply with the AEP requirement of section 26 of this regulation, each direct discharger shall submit information that:

a) Describes the AOX elimination policy for the discharger's plant, along with a plan for communicating this policy to relevant employee and management personnel. This description should include: specific short-term and long-term goals for AOX elimination; a statement of top-level management commitment to the elimination policy; methods used to accomplish top-level management support (i.e., reward and recognition program); and designation of a AEP team responsible for implementing the AEP.

b) Identifies the annual amounts of chlorine and chlorine compounds used for bleaching at the discharger's plant during the previous calendar year.

c) Describes (narratively) the sources of generation of AOX from the bleaching operations and contains a simple flow diagram or block diagram of the unit(s), processes or operations generating the AOX to facilitate evaluation of the chlorine and chlorine elimination efforts. The diagram must include, as a minimum, major process steps, equipment and AOX waste streams.

SCHEDULE 4: REFERENCE PRODUCTION RATES

PLANT NAME	REFERENCE PRODUCTION RATE	
	Bleached Kraft	Finished Product
	tonne/day	tonne/day
Abitibi–Price Inc., Fort William Division		428
Abitibi–Price Inc., Iroquois Falls Division		906
Abitibi–Price Inc., Provincial Papers Division		489
Beaver Wood Fibre Company Ltd.		347
Boise Cascade Canada Ltd. (Fort Frances)	587	1094
Boise Cascade Canada Ltd. (Kenora)		1057
Canadian Pacific Forest Products (Dryden)	915	1258
Canadian Pacific Forest Products (Thunder Bay)	1540	2584
Domtar Inc., Containerboard Division (Red Rock)	75	976
Domtar Inc., Containerboard Division (Trenton)		382
Domtar Inc., Fine Papers Division (Cornwall)	480	856
Domtar Inc., Fine Papers Division (St. Catharines)		196
E.B. Eddy Forest Products Ltd. (Espanola)	1216	1216
E.B. Eddy Forest Products Ltd. (Ottawa)		234
James River–Marathon Ltd.	523	523
Kimberly–Clark Canada Inc. (Huntsville)		118
Kimberly–Clark Canada Inc. (St. Catharines)		114
Kimberly–Clark Canada Inc. (Terrace Bay)	1308	1308
MacMillan–Bloedel Ltd.		301
Malette Kraft Pulp and Power Company	390	390
Noranda Forest Inc., Recycled Papers		284
Quebec & Ontario Paper Company Ltd.		1004
St. Marys Paper Inc.		629
Sonoco Limited		342
Spruce Falls Power and Paper Company Ltd.		1096
Strathcona Paper Company		217

SCHEDULE 3: ASSESSMENT MONITORING REQUIREMENTS
ONCE–THROUGH COOLING WATER, WEEKLY MONITORING

PLANT: All Plants	
ANALYTICAL TEST GROUP	
Number	Parameter
1	Chemical Oxygen Demand (COD)
3	Hydrogen ion (pH)
5a	Dissolved Organic Carbon (DOC)
7	Specific Conductance
8	Total Suspended Solids

SCHEDULE 2A
Unit of Production Loading Limits for the Corrugating Category (kg/tonne)

Parameter	Daily Limit	Monthly Average Daily Limit
BOD, 5 day	5.84	2.91
Total Suspended Solids	7.76	4.57
Total Phosphorus	0.0825	0.0502
Chloroform	0.00217	0.00109
Toluene	0.000215	0.000215
Phenol	0.000240	0.000240
2,3,7,8-TCDD	Non-measurable	Non-measurable
2,3,7,8-TCDF	Non-measurable	Non-measurable
Toxicity	Non-Acutely Lethal	

SCHEDULE 2A
Unit of Production Loading Limits for the Deinking/Board/Fine Papers/Tissue Category (kg/tonne)

Parameter	Daily Limit	Monthly Average Daily Limit
BOD, 5 day BOD, 5 day (Noranda Forest Inc. only)	5.84 10.0	2.91 5.00
Total Suspended Solids	7.76	4.57
Total Phosphorus	0.0825	0.0502
Chloroform	0.00217	0.00109
Toluene	0.000215	0.000215
Phenol	0.000240	0.000240
2,3,7,8-TCDD	Non-measurable	Non-measurable
2,3,7,8-TCDF	Non-measurable	Non-measurable
Toxicity	Non-Acutely Lethal	

SCHEDULE 2A
Unit of Production Loading Limits for the Sulphate (Kraft) Category (kg/tonne)

Parameter	Daily Limit	Monthly Average Daily Limit
BOD, 5 day	10.0	5.00
Total Suspended Solids	13.4	7.87
AOX - Day One - December 31, 1995 - December 31, 1999	3.22 1.93 1.03	2.50 1.50 0.800
Total Phosphorus	0.142	0.0863
Chloroform	0.00372	0.00188
Toluene	0.000215	0.000215
Phenol	0.000413	0.000413
2,3,7,8-TCDD	Non-measurable	Non-measurable
2,3,7,8-TCDF	Non-measurable	Non-measurable
Toxicity	Non-Acutely Lethal	

SCHEDULE 2A
Unit of Production Loading Limits for the Sulphite-Mechanical Category (kg/tonne)

Parameter	Daily Limit	Monthly Average Daily Limit
BOD, 5 day	10.0	5.00
Total Suspended Solids	13.4	7.87
Total Phosphorus	0.142	0.0863
Chloroform	0.00372	0.00188
Toluene	0.000215	0.000215
Phenol	0.000413	0.000413
2,3,7,8-TCDD	Non-measurable	Non-measurable
2,3,7,8-TCDF	Non-measurable	Non-measurable
Toxicity	Non-Acutely Lethal	

SCHEDULE 2: PROCESS EFFLUENT LIMITS

PLANT: Strathcona Paper Company		LIMITS		
ANALYTICAL TEST GROUP		Monitoring Frequency	Daily Loading	Monthly Average Loading
No.	Parameter		kg/day	kg/day
	Column 1	Column 2	Column 3	Column 4
6	Total Phosphorus	W	17.9	10.9
8	Total Suspended Solids (TSS)	D	1680	992
16	Chloroform	W	0.471	0.237
17	Toluene	W	0.0467	0.0467
20	Phenol	W	0.0521	0.0521
24	2,3,7,8–T4CDD	Q	NM	NM
	2,3,7,8–T4CDF	Q	NM	NM
M8	Biochemical Oxygen Demand (5 day)	D	204 *	102 *

Explanatory Notes:
D = Daily Monitoring Requirement
W = Weekly Monitoring Requirement
Q = Quarterly Monitoring Requirement

No. = Analytical Test Group (ATG) Number
kg/day = kilograms per day
NM = Non–Measurable

* Based on more stringent existing Ministry Control Order or Certificate of Approval Requirements

SCHEDULE 2: PROCESS EFFLUENT LIMITS

PLANT: Spruce Falls Power and Paper Company Ltd		LIMITS		
ANALYTICAL TEST GROUP		Monitoring Frequency	Daily Loading	Monthly Average Loading
No.	Parameter		kg/day	kg/day
	Column 1	Column 2	Column 3	Column 4
6	Total Phosphorus	W	156	94.6
8	Total Suspended Solids (TSS)	D	14700	8630
16	Chloroform	W	4.08	2.06
17	Toluene	W	0.236	0.236
20	Phenol	W	0.453	0.453
24	2,3,7,8–T4CDD	Q	NM	NM
	2,3,7,8–T4CDF	Q	NM	NM
M8	Biochemical Oxygen Demand (5 day)	D	11000	5480

Explanatory Notes:
D = Daily Monitoring Requirement
W = Weekly Monitoring Requirement
Q = Quarterly Monitoring Requirement

No. = Analytical Test Group (ATG) Number
kg/day = kilograms per day
NM = Non–Measurable

SCHEDULE 2: PROCESS EFFLUENT LIMITS

PLANT: Sonoco Limited		LIMITS		
ANALYTICAL TEST GROUP		Monitoring Frequency	Daily Loading	Monthly Average Loading
No.	Parameter		kg/day	kg/day
	Column 1	Column 2	Column 3	Column 4
6	Total Phosphorus	W	28.2	17.2
8	Total Suspended Solids (TSS)	D	2650	1560
16	Chloroform	W	0.742	0.373
17	Toluene	W	0.0735	0.0735
20	Phenol	W	0.0821	0.0821
24	2,3,7,8–T4CDD	Q	NM	NM
	2,3,7,8–T4CDF	Q	NM	NM
M8	Biochemical Oxygen Demand (5 day)	D	2000	995

Explanatory Notes:
D = Daily Monitoring Requirement
W = Weekly Monitoring Requirement
Q = Quarterly Monitoring Requirement

No. = Analytical Test Group (ATG) Number
kg/day = kilograms per day
NM = Non–Measurable

SCHEDULE 2: PROCESS EFFLUENT LIMITS

PLANT: St. Marys Paper Inc.		LIMITS		
ANALYTICAL TEST GROUP		Monitoring Frequency	Daily Loading	Monthly Average Loading
No.	Parameter		kg/day	kg/day
	Column 1	Column 2	Column 3	Column 4
6	Total Phosphorus	W	89.3	54.3
8	Total Suspended Solids (TSS)	D	8430	4950
16	Chloroform	W	2.34	1.18
17	Toluene	W	0.135	0.135
20	Phenol	W	0.260	0.260
24	2,3,7,8–T4CDD	Q	NM	NM
	2,3,7,8–T4CDF	Q	NM	NM
M8	Biochemical Oxygen Demand (5 day)	D	6290	3150

Explanatory Notes:
D = Daily Monitoring Requirement
W = Weekly Monitoring Requirement
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No. = Analytical Test Group (ATG) Number
kg/day = kilograms per day
NM = Non–Measurable

SCHEDULE 2: PROCESS EFFLUENT LIMITS

PLANT: Quebec & Ontario Paper Company Ltd.		LIMITS		
ANALYTICAL TEST GROUP		Monitoring Frequency	Daily Loading	Monthly Average Loading
No.	Parameter		kg/day	kg/day
	Column 1	Column 2	Column 3	Column 4
6	Total Phosphorus	W	143	86.6
8	Total Suspended Solids (TSS)	D	11500 *	6800 *
16	Chloroform	W	3.73	1.89
17	Toluene	W	0.216	0.216
20	Phenol	W	0.415	0.415
24	2,3,7,8–T4CDD	Q	NM	NM
	2,3,7,8–T4CDF	Q	NM	NM
M8	Biochemical Oxygen Demand (5 day)	D	10000	5020

Explanatory Notes:
D = Daily Monitoring Requirement
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SCHEDULE 2: PROCESS EFFLUENT LIMITS

PLANT: Noranda Forest Products Inc. Recycled Papers		LIMITS		
ANALYTICAL TEST GROUP		Monitoring Frequency	Daily Loading	Monthly Average Loading
No.	Parameter		kg/day	kg/day
	Column 1	Column 2	Column 3	Column 4
6	Total Phosphorus	W	23.4	14.3
8	Total Suspended Solids (TSS)	D	2200	1300
16	Chloroform	W	0.616	0.310
17	Toluene	W	0.0611	0.0611
20	Phenol	W	0.0682	0.0682
24	2,3,7,8–T4CDD	Q	NM	NM
	2,3,7,8–T4CDF	Q	NM	NM
M8	Biochemical Oxygen Demand (5 day)	D	2840	1420
M13	Adsorbable Organic Halide – Day One	W	914	710
	– December 31, 1995	W	548	426
	– December 31, 1999	W	293	227

Explanatory Notes:
D = Daily Monitoring Requirement
W = Weekly Monitoring Requirement
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No. = Analytical Test Group (ATG) Number
kg/day = kilograms per day
NM = Non–Measurable

SCHEDULE 2: PROCESS EFFLUENT LIMITS

PLANT: Malette Kraft Pulp and Power Company		LIMITS		
ANALYTICAL TEST GROUP		Monitoring Frequency	Daily Loading	Monthly Average Loading
No.	Parameter		kg/day	kg/day
	Column 1	Column 2	Column 3	Column 4
6	Total Phosphorus	W	55.4	33.7
8	Total Suspended Solids (TSS)	D	5200 *	3070
16	Chloroform	W	1.45	0.733
17	Toluene	W	0.0839	0.0839
20	Phenol	W	0.161	0.161
24	2,3,7,8–T4CDD	Q	NM	NM
	2,3,7,8–T4CDF	Q	NM	NM
M8	Biochemical Oxygen Demand (5 day)	D	3900	1950
M13	Adsorbable Organic Halide – Day One	W	1260	975
	– December 31, 1995	W	753	585
	– December 31, 1999	W	402	312

Explanatory Notes:
D = Daily Monitoring Requirement
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No. = Analytical Test Group (ATG) Number
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NM = Non–Measurable

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SCHEDULE 2: PROCESS EFFLUENT LIMITS

PLANT: MacMillan–Bloedel Ltd.		LIMITS		
ANALYTICAL TEST GROUP		Monitoring Frequency	Daily Loading	Monthly Average Loading
No.	Parameter		kg/day	kg/day
	Column 1	Column 2	Column 3	Column 4
6	Total Phosphorus	W	24.8	15.1
8	Total Suspended Solids (TSS)	D	2340	1380
16	Chloroform	W	0.653	0.328
17	Toluene	W	0.0647	0.0647
20	Phenol	W	0.0722	0.0722
24	2,3,7,8–T4CDD	Q	NM	NM
	2,3,7,8–T4CDF	Q	NM	NM
M8	Biochemical Oxygen Demand (5 day)	D	1760	876

Explanatory Notes:
D = Daily Monitoring Requirement
W = Weekly Monitoring Requirement
Q = Quarterly Monitoring Requirement

No. = Analytical Test Group (ATG) Number
kg/day = kilograms per day
NM = Non–Measurable

SCHEDULE 2: PROCESS EFFLUENT LIMITS

PLANT: Kimberly–Clark Canada Inc. (Huntsville)		LIMITS		
ANALYTICAL TEST GROUP		Monitoring Frequency	Daily Loading	Monthly Average Loading
No.	Parameter		kg/day	kg/day
	Column 1	Column 2	Column 3	Column 4
6	Total Phosphorus	W	0.300 *	0.183 *
8	Total Suspended Solids (TSS)	D	151 *	88.9 *
16	Chloroform	W	0.256	0.129
17	Toluene	W	0.0254	0.0254
20	Phenol	W	0.0283	0.0283
24	2,3,7,8–T4CDD	Q	NM	NM
	2,3,7,8–T4CDF	Q	NM	NM
M8	Biochemical Oxygen Demand (5 day)	D	227 *	113 *

Explanatory Notes:
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kg/day = kilograms per day
NM = Non–Measurable

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SCHEDULE 2: PROCESS EFFLUENT LIMITS

PLANT: James River–Marathon Ltd.		LIMITS		
ANALYTICAL TEST GROUP		Monitoring Frequency	Daily Loading	Monthly Average Loading
No.	Parameter		kg/day	kg/day
	Column 1	Column 2	Column 3	Column 4
6	Total Phosphorus	W	74.3	45.1
8	Total Suspended Solids (TSS)	D	5400 *	3300 *
16	Chloroform	W	1.95	0.983
17	Toluene	W	0.112	0.112
20	Phenol	W	0.216	0.216
24	2,3,7,8–T4CDD	Q	NM	NM
	2,3,7,8–T4CDF	Q	NM	NM
M8	Biochemical Oxygen Demand (5 day)	D	5230	2620
M13	Adsorbable Organic Halide – Day One	W	1680	1310
	– December 31, 1995	W	1010	785
	– December 31, 1999	W	539	418

Explanatory Notes:
D = Daily Monitoring Requirement
W = Weekly Monitoring Requirement
Q = Quarterly Monitoring Requirement

No. = Analytical Test Group (ATG) Number
kg/day = kilograms per day
NM = Non–Measurable

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SCHEDULE 2: PROCESS EFFLUENT LIMITS

PLANT: E.B. Eddy Forest Products Ltd. (Ottawa)		LIMITS		
ANALYTICAL TEST GROUP		Monitoring Frequency	Daily Loading	Monthly Average Loading
No.	Parameter		kg/day	kg/day
	Column 1	Column 2	Column 3	Column 4
6	Total Phosphorus	W	19.3	11.7
8	Total Suspended Solids (TSS)	D	1820	1070
16	Chloroform	W	0.508	0.255
17	Toluene	W	0.0503	0.0503
20	Phenol	W	0.0562	0.0562
24	2,3,7,8–T4CDD	Q	NM	NM
	2,3,7,8–T4CDF	Q	NM	NM
M8	Biochemical Oxygen Demand (5 day)	D	1370	681

Explanatory Notes:
D = Daily Monitoring Requirement
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Q = Quarterly Monitoring Requirement

No. = Analytical Test Group (ATG) Number
kg/day = kilograms per day
NM = Non–Measurable

SCHEDULE 2: PROCESS EFFLUENT LIMITS

PLANT: E.B. Eddy Forest Products Ltd. (Espanola)		LIMITS		
ANALYTICAL TEST GROUP		Monitoring Frequency	Daily Loading	Monthly Average Loading
No.	Parameter		kg/day	kg/day
	Column 1	Column 2	Column 3	Column 4
6	Total Phosphorus	W	173	105
8	Total Suspended Solids (TSS)	D	12900 *	7500 *
16	Chloroform	W	4.52	2.29
17	Toluene	W	0.261	0.261
20	Phenol	W	0.502	0.502
24	2,3,7,8–T4CDD	Q	NM	NM
	2,3,7,8–T4CDF	Q	NM	NM
M8	Biochemical Oxygen Demand (5 day)	D	10400 *	6000 *
M13	Adsorbable Organic Halide – Day One	W	3920	3040
	– December 31, 1995	W	2350	1820
	– December 31, 1999	W	1250	973

Explanatory Notes:
D = Daily Monitoring Requirement
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Q = Quarterly Monitoring Requirement

No. = Analytical Test Group (ATG) Number
kg/day = kilograms per day
NM = Non–Measurable

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SCHEDULE 2: PROCESS EFFLUENT LIMITS

PLANT: Domtar Inc., Fine Papers Division (St. Catharines)		LIMITS		
ANALYTICAL TEST GROUP		Monitoring Frequency	Daily Loading	Monthly Average Loading
No.	Parameter		kg/day	kg/day
	Column 1	Column 2	Column 3	Column 4
6	Total Phosphorus	W	16.2	9.84
8	Total Suspended Solids (TSS)	D	1520	896
16	Chloroform	W	0.425	0.214
17	Toluene	W	0.0421	0.0421
20	Phenol	W	0.0470	0.0470
24	2,3,7,8–T4CDD	Q	NM	NM
	2,3,7,8–T4CDF	Q	NM	NM
M8	Biochemical Oxygen Demand (5 day)	D	1140	570

Explanatory Notes:
D = Daily Monitoring Requirement
W = Weekly Monitoring Requirement
Q = Quarterly Monitoring Requirement

No. = Analytical Test Group (ATG) Number
kg/day = kilograms per day
NM = Non–Measurable

SCHEDULE 2: PROCESS EFFLUENT LIMITS

PLANT: Domtar Inc., Fine Papers Division (Cornwall)		LIMITS		
ANALYTICAL TEST GROUP		Monitoring Frequency	Daily Loading	Monthly Average Loading
No.	Parameter		kg/day	kg/day
	Column 1	Column 2	Column 3	Column 4
6	Total Phosphorus	W	122	73.9
8	Total Suspended Solids (TSS)	D	11500	6740
16	Chloroform	W	3.18	1.61
17	Toluene	W	0.184	0.184
20	Phenol	W	0.354	0.354
24	2,3,7,8–T4CDD	Q	NM	NM
	2,3,7,8–T4CDF	Q	NM	NM
M8	Biochemical Oxygen Demand (5 day)	D	8560	4280
M13	Adsorbable Organic Halide – Day One	W	1550	1200
	– December 31, 1995	W	926	720
	– December 31, 1999	W	494	384

Explanatory Notes:
D = Daily Monitoring Requirement
W = Weekly Monitoring Requirement
Q = Quarterly Monitoring Requirement

No. = Analytical Test Group (ATG) Number
kg/day = kilograms per day
NM = Non–Measurable

SCHEDULE 2: PROCESS EFFLUENT LIMITS

PLANT: Domtar Inc., Containerboard Division (Trenton)		LIMITS		
ANALYTICAL TEST GROUP		Monitoring Frequency	Daily Loading	Monthly Average Loading
No.	Parameter		kg/day	kg/day
	Column 1	Column 2	Column 3	Column 4
6	Total Phosphorus	W	31.5	19.2
8	Total Suspended Solids (TSS)	D	2960	1750
16	Chloroform	W	0.829	0.416
17	Toluene	W	0.0821	0.0821
20	Phenol	W	0.0917	0.0917
24	2,3,7,8–T4CDD	Q	NM	NM
	2,3,7,8–T4CDF	Q	NM	NM
M8	Biochemical Oxygen Demand (5 day)	D	2230	1110

Explanatory Notes:
D = Daily Monitoring Requirement
W = Weekly Monitoring Requirement
Q = Quarterly Monitoring Requirement

No. = Analytical Test Group (ATG) Number
kg/day = kilograms per day
NM = Non–Measurable

SCHEDULE 2: PROCESS EFFLUENT LIMITS

PLANT: Domtar Inc., Containerboard Division (Red Rock)		LIMITS		
ANALYTICAL TEST GROUP		Monitoring Frequency	Daily Loading	Monthly Average Loading
No.	Parameter		kg/day	kg/day
	Column 1	Column 2	Column 3	Column 4
6	Total Phosphorus	W	139	84.2
8	Total Suspended Solids (TSS)	D	10000 *	6300 *
16	Chloroform	W	3.63	1.83
17	Toluene	W	0.210	0.210
20	Phenol	W	0.403	0.403
24	2,3,7,8–T4CDD	Q	NM	NM
	2,3,7,8–T4CDF	Q	NM	NM
M8	Biochemical Oxygen Demand (5 day)	D	9760	4880
M13	Adsorbable Organic Halide – Day One	W	242	188
	– December 31, 1995	W	145	113
	– December 31, 1999	W	77.3	60.0

Explanatory Notes:
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W = Weekly Monitoring Requirement
Q = Quarterly Monitoring Requirement

No. = Analytical Test Group (ATG) Number
kg/day = kilograms per day
NM = Non–Measurable

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SCHEDULE 2: PROCESS EFFLUENT LIMITS

PLANT: Canadian Pacific Forest Products (Thunder Bay)		LIMITS		
ANALYTICAL TEST GROUP		Monitoring Frequency	Daily Loading	Monthly Average Loading
No.	Parameter		kg/day	kg/day
	Column 1	Column 2	Column 3	Column 4
6	Total Phosphorus	W	367	223
8	Total Suspended Solids (TSS)	D	25000 *	15000 *
16	Chloroform	W	9.61	4.86
17	Toluene	W	0.556	0.556
20	Phenol	W	1.07	1.07
24	2,3,7,8–T4CDD	Q	NM	NM
	2,3,7,8–T4CDF	Q	NM	NM
M8	Biochemical Oxygen Demand (5 day)	D	25800	12900
M13	Adsorbable Organic Halide – Day One	W	4960	3850
	– December 31, 1995	W	2970	2310
	– December 31, 1999	W	1590	1230

Explanatory Notes:
D = Daily Monitoring Requirement
W = Weekly Monitoring Requirement
Q = Quarterly Monitoring Requirement

No. = Analytical Test Group (ATG) Number
kg/day = kilograms per day
NM = Non–Measurable

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SCHEDULE 2: PROCESS EFFLUENT LIMITS

PLANT: Canadian Pacific Forest Products (Dryden)		LIMITS		
ANALYTICAL TEST GROUP		Monitoring Frequency	Daily Loading	Monthly Average Loading
No.	Parameter		kg/day	kg/day
	Column 1	Column 2	Column 3	Column 4
6	Total Phosphorus	W	179	109
8	Total Suspended Solids (TSS)	D	12000 *	7500 *
16	Chloroform	W	4.68	2.37
17	Toluene	W	0.270	0.270
20	Phenol	W	0.520	0.520
24	2,3,7,8–T4CDD	Q	NM	NM
	2,3,7,8–T4CDF	Q	NM	NM
M8	Biochemical Oxygen Demand (5 day)	D	9000 *	5000 *
M13	Adsorbable Organic Halide – Day One	W	2950	2290
	– December 31, 1995	W	1770	1370
	– December 31, 1999	W	942	732

Explanatory Notes:
D = Daily Monitoring Requirement
W = Weekly Monitoring Requirement
Q = Quarterly Monitoring Requirement

No. = Analytical Test Group (ATG) Number
kg/day = kilograms per day
NM = Non–Measurable

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SCHEDULE 2: PROCESS EFFLUENT LIMITS

PLANT: Boise Cascade Canada Ltd. (Kenora)		LIMITS		
ANALYTICAL TEST GROUP		Monitoring Frequency	Daily Loading	Monthly Average Loading
No.	Parameter		kg/day	kg/day
	Column 1	Column 2	Column 3	Column 4
6	Total Phosphorus	W	150	91.2
8	Total Suspended Solids (TSS)	D	7640 *	4500 *
16	Chloroform	W	3.93	1.99
17	Toluene	W	0.227	0.227
20	Phenol	W	0.437	0.437
24	2,3,7,8–T4CDD	Q	NM	NM
	2,3,7,8–T4CDF	Q	NM	NM
M8	Biochemical Oxygen Demand (5 day)	D	10600	5290

Explanatory Notes:
D = Daily Monitoring Requirement
W = Weekly Monitoring Requirement
Q = Quarterly Monitoring Requirement

No. = Analytical Test Group (ATG) Number
kg/day = kilograms per day
NM = Non–Measurable

* Based on more stringent existing Ministry Control Order or Certificate of Approval Requirements

SCHEDULE 2: PROCESS EFFLUENT LIMITS

PLANT: Boise Cascade Canada Ltd. (Fort Frances)		LIMITS		
ANALYTICAL TEST GROUP		Monitoring Frequency	Daily Loading	Monthly Average Loading
No.	Parameter		kg/day	kg/day
	Column 1	Column 2	Column 3	Column 4
6	Total Phosphorus	W	155	94.4
8	Total Suspended Solids (TSS)	D	14700	8610
16	Chloroform	W	4.07	2.06
17	Toluene	W	0.235	0.235
20	Phenol	W	0.452	0.452
24	2,3,7,8–T4CDD	Q	NM	NM
	2,3,7,8–T4CDF	Q	NM	NM
M8	Biochemical Oxygen Demand (5 day)	D	10900	5470
M13	Adsorbable Organic Halide – Day One	W	1890	1470
	– December 31, 1995	W	1130	881
	– December 31, 1999	W	605	470

Explanatory Notes:
D = Daily Monitoring Requirement
W = Weekly Monitoring Requirement
Q = Quarterly Monitoring Requirement

No. = Analytical Test Group (ATG) Number
kg/day = kilograms per day
NM = Non–Measurable

SCHEDULE 2: PROCESS EFFLUENT LIMITS

PLANT: Kimberly–Clark Canada Inc. (Terrace Bay)		LIMITS		
ANALYTICAL TEST GROUP		Monitoring Frequency	Daily Loading	Monthly Average Loading
No.	Parameter		kg/day	kg/day
	Column 1	Column 2	Column 3	Column 4
6	Total Phosphorus	W	186	113
8	Total Suspended Solids (TSS)	D	11500 *	7000 *
16	Chloroform	W	4.87	2.46
17	Toluene	W	0.281	0.281
20	Phenol	W	0.540	0.540
24	2,3,7,8–T4CDD	Q	NM	NM
	2,3,7,8–T4CDF	Q	NM	NM
M8	Biochemical Oxygen Demand (5 day)	D	13100	6540
M13	Adsorbable Organic Halide – Day One	W	4210	3270
	– December 31, 1995	W	2520	1960
	– December 31, 1999	W	1350	1050

Explanatory Notes:
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SCHEDULE 2: PROCESS EFFLUENT LIMITS

PLANT: Kimberly–Clark Canada Inc. (St. Catharines)		LIMITS		
ANALYTICAL TEST GROUP		Monitoring Frequency	Daily Loading	Monthly Average Loading
No.	Parameter		kg/day	kg/day
	Column 1	Column 2	Column 3	Column 4
6	Total Phosphorus	W	9.41	5.72
8	Total Suspended Solids (TSS)	D	885	521
16	Chloroform	W	0.247	0.124
17	Toluene	W	0.0245	0.0245
20	Phenol	W	0.0274	0.0274
24	2,3,7,8–T4CDD	Q	NM	NM
	2,3,7,8–T4CDF	Q	NM	NM
M8	Biochemical Oxygen Demand (5 day)	D	666	332

Explanatory Notes:
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SCHEDULE 2: PROCESS EFFLUENT LIMITS

PLANT: Beaver Wood Fibre Company Ltd.		LIMITS		
ANALYTICAL TEST GROUP		Monitoring Frequency	Daily Loading	Monthly Average Loading
No.	Parameter		kg/day	kg/day
	Column 1	Column 2	Column 3	Column 4
6	Total Phosphorus	W	28.6	17.4
8	Total Suspended Solids (TSS)	D	1530 *	904 *
16	Chloroform	W	0.753	0.378
17	Toluene	W	0.0746	0.0746
20	Phenol	W	0.0833	0.0833
24	2,3,7,8–T4CDD	Q	NM	NM
	2,3,7,8–T4CDF	Q	NM	NM
M8	Biochemical Oxygen Demand (5 day)	D	2030	1010

Explanatory Notes:
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SCHEDULE 2: PROCESS EFFLUENT LIMITS

PLANT: Abitibi–Price Inc. Provincial Papers Division		LIMITS		
ANALYTICAL TEST GROUP		Monitoring Frequency	Daily Loading	Monthly Average Loading
No.	Parameter		kg/day	kg/day
	Column 1	Column 2	Column 3	Column 4
6	Total Phosphorus	W	69.4	42.2
8	Total Suspended Solids (TSS)	D	4240 *	2500 *
16	Chloroform	W	1.82	0.919
17	Toluene	W	0.105	0.105
20	Phenol	W	0.202	0.202
24	2,3,7,8–T4CDD	Q	NM	NM
	2,3,7,8–T4CDF	Q	NM	NM
M8	Biochemical Oxygen Demand (5 day)	D	4890	2450

Explanatory Notes:
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SCHEDULE 2: PROCESS EFFLUENT LIMITS

PLANT: Abitibi–Price Inc. Iroquois Falls Division		LIMITS		
ANALYTICAL TEST GROUP		Monitoring Frequency	Daily Loading	Monthly Average Loading
No.	Parameter		kg/day	kg/day
	Column 1	Column 2	Column 3	Column 4
6	Total Phosphorus	W	129	78.2
8	Total Suspended Solids (TSS)	D	12100	7130
16	Chloroform	W	3.37	1.70
17	Toluene	W	0.195	0.195
20	Phenol	W	0.374	0.374
24	2,3,7,8–T4CDD	Q	NM	NM
	2,3,7,8–T4CDF	Q	NM	NM
M8	Biochemical Oxygen Demand (5 day)	D	9060	4530

Explanatory Notes:
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kg/day = kilograms per day
NM = Non–Measurable

SCHEDULE 2: PROCESS EFFLUENT LIMITS

PLANT: Abitibi–Price Inc. Fort William Division		LIMITS		
ANALYTICAL TEST GROUP		Monitoring Frequency	Daily Loading	Monthly Average Loading
No.	Parameter		kg/day	kg/day
	Column 1	Column 2	Column 3	Column 4
6	Total Phosphorus	W	60.8	36.9
8	Total Suspended Solids (TSS)	D	4240 *	2500 *
16	Chloroform	W	1.59	0.805
17	Toluene	W	0.0920	0.0920
20	Phenol	W	0.177	0.177
24	2,3,7,8–T4CDD	Q	NM	NM
	2,3,7,8–T4CDF	Q	NM	NM
M8	Biochemical Oxygen Demand (5 day)	D	4280	2140

Explanatory Notes:
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